DOCUMENT RESUME

ED 036 717 AC 006 446

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TITLE	Eighth Teacher Evaluation and Pre-Post Test Results of the Jackson County Adult Evening High School Completion Program (Iowa) for the Semester Ending December 17, 1969.
PUB DATE	69
NOTE	38p.
EDRS PRICE	EDRS Price MF-$0.25 HC-$2.00
DESCRIPTORS	*Educational Needs, *Program Evaluation, *Public School Adult Education, Secondary Education, Statistical Data, Student Evaluation, *Teacher Attitudes, Teaching Techniques, Test Results, Units of Study (Subject Fields)
IDENTIFIERS	Stanford Achievement Test

ABSTRACT

Teachers of 30 adult evening high school completion classes in Jackson County, Iowa, completed questionnaires to assess their own inservice training needs in relation to program content and effectiveness. The comparative few who recognized a need for inservice training stressed such concerns as courses in English, and adult education trends and innovations. In general, the most helpful program activities were use of audiovisual aids, blackboard work by teachers, classroom illustrations by teachers, and class discussions. Lectures, home work, and workbooks were of little use. The dropout rate was the leading problem. Teachers' suggestions for improving classes were few. Pretest and posttest results gave significant indication that adults are really learning. Moreover, in view of the lack of testing tailored to adults, the extent of learning may have been underestimated. (ly)

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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EIGHTH TEACHER EVALUATION AND PRE-POST TEST RESULTS OF THE JACKSON COUNTY ADULT EVENING HIGH SCHOOL COMPLETION PROGRAM FOR THE SEMESTER ENDING DECEMBER 17, 1969 (Iowa)

Thirty classes (four at Bellevue, six at Miles-Preston, and nineteen at Maquoketa) were taught during this semester.

At the end of the semester, all thirty teachers were given evaluation forms to complete. Thirty were returned for a return of 100%.

Of the thirty classes taught, twenty made use of pre-post tests and this data is perhaps the most interesting of the data collected.

The results of the data collected follow:

QUESTION # 1. Is there a need for in-service training for teachers of adult classes?

RESPONSES BY SUBJECT AREAS:

BOOKKEEPING - 1 section

Yes	0
No	1

ENGLISH 10 - 4 sections

Yes	1
No	2
No response	1

ENGLISH 11 - 3 sections

Yes	1
No	1
No response	1

MATH - 3 sections

Yes	1
No	2

SCIENCE - 3 sections

Yes	1
No	2

GOVERNMENT (American) - 3 sections

Yes	3
No	0

HISTORY (American) - 3 sections

Yes	2
No	1

HOME ECONOMICS - 2 sections

Yes	1
No	1

METALS - 1 section

Yes	0
No	1

TYPING I & II - 4 sections

Yes	1
No	1
No response	2

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Responses - Question #1-continued.

SHORTHAND - 1 section

Yes	0
No	0
No response	1

WELDING - 1 section

Yes	0
No	1

WOODS & CRAFTS - 1 section

Yes	0
No	1

RECAP

"Yes" responses	11
"No" responses	14
"Other" responses	5
TOTAL	30

QUESTION #1a. If yes, what kind of in-service training is needed the most?

RESPONSES:

ENGLISH 10:

A session to introduce new teachers to methods of dealing with adults. 1

ENGLISH 11:

I believe we should know the work covered by both English 10 & 11, so we can formulate a course of study and not have repetition. 1

HISTORY (AMERICAN):

For the people not familiar with the program. 1

Familiarize the faculty of trends and innovations in overall adult education. 1

HOME ECONOMICS:

No response to this part. 1

MATH:

For new teachers - also keep the "old" teachers informed of new developments. 1

SCIENCE:

I feel that our preliminary meeting serves us quite well. 1

Science continued.

To explain, especially for the new teachers, just how to proceed, the level of the students, and how fully to cover the subject. 1

TYPING:

Conference like we attended in Dubuque last May. Perhaps more teachers of the same subjects could get together. 1

TOTAL (YES) RESPONSES 11

QUESTION # 2. Activity(ies) you found to be most helpful and interesting to your students in your teaching of this subject.

RESPONSES:

BOOKKEEPING - 1 section

Audio-visual aids. 1

Blackboard work by teacher. 1

Classroom illustrations by teacher. 1

Classroom discussion by student and teacher. 1

Homework assignments. 1

Workbook assignments. 1

ENGLISH 10 - 4 sections

Audio-visual aids. 2

Blackboard work by teacher. 4

Book reports - written. 1

Book reports - oral. 1

Classroom illustrations by teacher. 1

Classroom discussion by student and teacher. 4

Explanations on the blackboard by teacher. 4

Explanations by the teacher (oral). 3

Guest speakers. 1

Homework assignments. 2

Lectures by the teacher. 1

Outside reading assignments. 1

ENGLISH 10 continued. 4

Outside reading of novels or short stories. 1

Review of subject prior to testing. 2

Workbook assignments. 3

Other: Tape recordings of novels and short stories help very much because class members have such little time for outside reading. 1

ENGLISH 11 - 3 sections.

Audio-visual aids. 2

Blackboard work by teacher. 1

Book reports - oral. 1

Classroom discussion by student and teacher. 3

Explanations on the blackboard by teacher. 1

Explanations by the teacher (oral). 2

Outside reading of novels or short stories. 1
Review of subject prior to testing. 1
Student speeches. 2
1
Workbook assignments. 1

GOVERNMENT (AMERICAN) - 3 sections.

Audio-visual aids. 2

Blackboard work by teacher. 2

Classroom illustrations by teacher. 3

Classroom discussion by student and teacher. ?

Explanations on the blackboard by teacher. 2

Explanations by the teacher (oral). 3

Field trips. 1

Guest speakers. 2

Homework assignments. ?

Lectures by the teacher. 2

Outside reading of current events. 1

Review of subject prior to testing. 1
Tests or quizzes. 2
Workbook assignments. 1

	5
HISTORY (AMERICAN) - 3 sections.	
Audio-visual aids.	2
Blackboard work by teacher.	2
Book reports - oral.	1
Classroom illustrations by teacher.	1
Classroom discussion by student and teacher.	3
Explanations on the blackboard by teacher.	1
Explanations by the teacher (oral).	3
Guest speakers.	2
Outside reading assignments.	2
Outside reading of current events.	1
Other: Several simulation activities were used that appeared to be rewarding.	1
HOME ECONOMICS - 2 sections.	
Classroom illustrations by students.	1
Classroom illustrations by teacher.	2
Classroom discussion by student and teacher.	2
Explanations on the blackboard by teacher.	1
Explanations by the teacher (oral).	1
Other: Most of our work was projects with individual help, or group activities.	1
MATH - 3 sections.	
Blackboard work by teacher.	3
Classroom illustrations by student.	1
Classroom illustrations by teachers.	2
Classroom discussion by student and teacher.	2
Explanations on the blackboard by the teacher.	3
Explanations by the teacher (oral).	2
Homework assignments.	2
Review of subject prior to testing.	1

MATH continued.

Tests or quizzes.	1
Other: I used lots of worksheets consisting of business math, volumes, perimeters, areas and square root.	1

METAL SHOP - 1 section.

Audio-visual aids.	1
Classroom illustrations by teacher.	1
Field trips.	1
Guest speakers.	1

SCIENCE - 3 sections.

Audio-visual aids.	3
Blackboard work by teacher.	2
Classroom illustrations by students.	1
Classroom illustrations by teachers.	2
Classroom discussion by student and teacher.	2
Experiments in the classroom.	2
Explanations on the blackboard by teacher.	2
Explanations by the teacher(oral).	2
Homework assignments.	2
Lectures by the teacher.	1
Microscope use.	2
Outside reading assignments.	1
Outside reading of current events.	1
Review of subject prior to testing.	1
Tests or quizzes.	2
Other: Bringing in the importance of what we are doing in the classroom in relation to current happenings in science.	1

SHORTHAND - 1 section.

Blackboard work by teacher.	1
Classroom illustrations by teacher.	1
Classroom discussion by student and teacher.	1
Explanations on the blackboard by teacher.	1
Explanations by the teacher (oral).	1
Homework assignments.	1
Outside reading assignments.	1
Tests or quizzes.	1
Workbook assignments.	1
Other: Additional outside reading of shorthand books and copies prepared by teacher.	1

TYPING I & II 4 sections.

Blackboard work by teacher.	2
Classroom illustrations by teacher.	2
Classroom discussion by student & teacher.	1
Explanations on the blackboard by teacher.	3
Explanations by the teacher (oral).	2
Lectures by the teacher.	1
Other: Drilling and practicing various typing skills.	1
Speed drills.	1

WELDING - 1 section.

Audio-visual aids.	1
Classroom discussion by student and teacher.	1
Field trips.	1
Guest speakers.	1
Other: Projects.	1

WOODS AND CRAFTS - 1 section.

Audio-visual aids. 1

Classroom illustrations by teacher. 1

Other: Individual instruction as problems arose. 1

QUESTION # 3. Activities found to be least helpful and interesting to your students in your teaching of this subject.

RESPONSES:

BOOKKEEPING - 1 section.

No response. 1

ENGLISH 10 - 4 sections.

Audio-visual aids. 1

Book reports (written). 1

Field trips. 1

Guest speakers. 1

Lectures by the teacher. 2

Outside reading assignments. 1

Outside reading of novels and short stories. 2

No response. 1

ENGLISH 11 - 3 sections.

Book reports(written). 1

Book reports (oral). 1

Homework assignments. 1

Lectures by the teacher. 1

Outside reading of novels and short stories. 1

GOVERNMENT (AMERICAN) - 3 sections.

Blackboard work by students. 1

Book reports (written). 1

Book reports (oral). 2

Classroom illustrations by students. 2

GOVERNMENT continued.	9
Field trips.	1
Homework assignments.	1
Outside reading of current events.	1
Outside reading of novels and short stories.	1
Student speeches.	1
Tests or quizzes.	1
HISTORY (AMERICAN) - 3 sections.	
Book reports (written).	1
Homework assignments.	2
Lectures by the teacher.	1
Outside reading assignments.	1
Tests or quizzes.	1
Workbook assignments.	1
No response.	1
Other: Students must enjoy their continued education and not be discouraged in any way.	1
HOME ECONOMICS - 2 sections.	
No activity was least helpful.	1
No response.	1
MATH - 3 sections.	
Tests or quizzes.	1
No response.	2
METAL SHOP - 1 section.	
Homework assignments.	1
SCIENCE - 3 sections.	
Classroom illustrations by students.	1
Experiments in the classroom.	1
Homework assignments.	1
Lectures by the teacher.	2

SCIENCE continued. 10

Microscope use. 1

Student speeches. 1

SHORTHAND - 1 section.

No response. 1

TYPING I & II - 4 sections.

HOmework assignments. 1

No response. 2

No activity was least helpful. 1

WELDING - 1 section.

Homework assignments. 1

Outside reading assignments. 1

WOODS AND CRAFTS - 1 section.

No response. 1

QUESTION # 4. Problem(s) you encountered in this class the past semester, as a teacher.

RESPONSES:

BOOKKEEPING - 1 section.

Attendance. 1

ENGLISH 10 - 4 sections.

Excessive "drop-outs". 2

Variety of knowledge & ability to comprehend. 1

No response. 1

ENGLISH II - 3 sections.

None. 3

GOVERNMENT (AMERICAN) - 3 sections.

Once I found their level of ability it was fine. 1

Pre-post test not related to our text or to a current events oriented course. 1

None. 2

HISTORY (AMERICAN) - 3 sections.

Lack of interest for the past history of the U.S. Adults feel the need for more practical subjects. 1

Had difficulty communicating with one introverted student, but he eventually came around. 1

None. 1

HOME ECONOMICS - 2 sections.

None. 2

MATH - 3 sections.

Drop-out rate too high. 1

None. 2

METAL SHOP - 1 section.

Didn't have proper equipment for further study. 1

SCIENCE - 3 sections.

Absenteeism. 1

The right book for science might work. 1

None. 1

SHORTHAND - 1 section.

No response. 1

TYPING I & II - 4 sections.

Too many typing II students in typing I. 2

None. 2

WELDING - 1 section.

Tardiness. 1

Students finding time to read the book. 1

WOODS & CRAFTS - 1 section.

None. 1

QUESTION # 5. In what way(s) do you think this class might be improved? 12

RESPONSES:

BOOKKEEPING - 1 section.

None. 1

ENGLISH 10 - 4 sections.

It seemed the biggest problem was "dropouts". 1

Excessive dropping of the course. 1

Variety of knowledge and ability to comprehend. 1

None. 1

ENGLISH 11 - 3 sections.

None. 3

GOVERNMENT (AMERICAN) - 3 sections.

Money for current magazines and papers (but this is my problem in high school also). 1

None. 2

HISTORY (AMERICAN) - 3 sections.

Maybe by use of guest lectures and audio-visual aids. 1

I was satisfied with our progress. 1

No response. 1

HOME ECONOMICS - 2 sections.

I think some sample techniques done by the students would have been helpful. before they reached that point in the construction of the garment. 1

No response. 1

MATH - 3 sections.

Some programmed learning material for the students so they could progress at their own rate. 1

I change it a little every quater, but it is hard to get some adults to accept the fact that they will use the math. 1

None. 1

METAL SHOP - 1 section.

Field trips and more equipment. 1

SCIENCE - 3 sections.

The use of Patterns and Processes by BSCS. The workbook for each student. Something similar for the physical sciences. 1

Go to individualized teaching method. 1

None. 1

SHORTHAND - 1 section.

I feel students should realize that this course requires a tremendous amount of outside work - the more time spent on it, the better the results. 1

TYPING I & II - 4 sections.

Perhaps "stiffer" typing standards - include stencil and ditto work, include a letter writing unit. 1

Make sure only beginners are in Typing I. 1

None. 2

WELDING - 1 section.

No more than ten students. Some nights should be longer and others shorter. There would be several things I would do differently if I taught this class again. 1

WOODS AND CRAFTS. - 1 section.

Having many students take the same course over, unless there is a definite interest, could present a problem. 1

QUESTION # 6. Additional comments you might like to make that have not been covered by this questionnaire?

RESPONSES:

BOOKKEEPING - 1 section.

None. 1

ENGLISH 10 - 4 sections.

No response. 2

None. 2

ENGLISH II - 3 section.

No response.	1
None.	2

GOVERNMENT (AMERICAN) - 3 sections.

A very worthwhile program for adults, and I feel it is too bad funds are being decreased instead of increased.	1
Students seem to be less concerned.	1
None.	1

HISTORY (AMERICAN) - 3 sections

The pre-post test (Stanford Achievement) for American History is believed by most students not to be a true indication of their learning experience.	1
No response.	2

HOME ECONOMICS - 2 sections.

The girls seemed to enjoy being able to choose what they would make and do.	1
None.	1

MATH - 3 sections.

This class, as compared to the last year's class, didn't have the abilities and didn't cover all I had hoped to. They wanted to work on fundamentals. I guess it paid off, according to the pre-post testing.	1
No response.	1
None.	1

METAL SHOP - 1 section.

No response.	1

SCIENCE - 3 sections.

I found that films dealing with the topics for the evening very useful. Well worth the time taken to order them.	1
None.	2

SHORTHAND - 1 section.

No response.	1

TYPING - 4 sections.

Five or six students have shown a strong interest in taking an office machines course next fall.	2
No response.	1
None.	1

WELDING - 1 section.

I enjoyed the class very much. I believe I learned as much as the students.	1

WOODS AND CRAFTS - 1 section.

None.	1

WHY TABULATE THIS DATA?

The teacher might gain some insight into his class, make some observations about his teaching or the tests used by reviewing some of these results.

The mean, median and mode may give a good picture of the average performance of a class, the mean being useful in additional statistical manipulation.

The range may give you an idea of the differences in abilities or prior knowledge which will affect how you teach the group.

The gains (or losses) between pre-post tests may give some clues to the suitability of the tests used or the teaching methods employed.

Standard Errors give some idea of what the true score might be, by adding or subtracting the SE to the obtained score (score made by the student).

Correlations, r or rho, useful in determing relationships and levels of confidence should help the teacher make some decisions about his teaching, suitability of tests, etc.

The following details of formulas used, etc. are given for the benefit of anyone who may be interested in how the figures were obtained or to check on their own class results.

The pre-post test results of the twenty classes that administered pre-post tests,(10 classes did not) during the first semester of the 1969-70 school year will be found on the following pages. The data was tabulated for each class tested, and treated statistically in several different ways. In order to help interpret some of the statistical treatment, the following explanations are given:

1. MEAN is the arithmetic average obtained by totaling the scores obtained and dividing by the number of scores entering into the total.

2. MEDIAN is the middle score obtained by finding the point above or below which half the scores lie. It is found by counting into the distribution.

3. MODE is the most often occuring score.Because of the small class sizes, no modes were listed

4. RANGE is the difference between the largest and smallest scores obtained. It is recorded here as the low score and the high score.

5. STANDARD DEVIATION is a measure of variability calculated aroung the mean There are two different formulas used on the following pages, and this has been figured three different times both as a check for accuracy and for different purposes. The formulas used were:

$SD = \sqrt{\frac{\Sigma x^2}{N}}$ where x^2 is the square of the difference between the obtained score and the mean.
Σ is the sum of those squares.
N is the number of scores.
$\sqrt{\ }$ is the square root symbol.

$s = \sqrt{\frac{\Sigma x^2}{N-1}}$ the only difference here is that one (1) is subtracted from N before dividing. This is recommended for samples under 30.

$\sigma = \sqrt{\frac{\Sigma x^2}{N}}$ same formula as the first. The σ stands for standard deviation and the symbol is called sigma.

6. CORRELATION refers to the relationship between two sets of scores, in this ~~class~~ case pre to post scores. Two correlations were figured, one the RANK difference method which compares the rank of a student score on one test with the rank of his score on a second test. This gives us a correlation called rho (ρ).

ρ (rho) = $1.00 - \frac{6\Sigma(diff)^2}{N(N^2-1)}$ where $(diff^2)$ is the difference in rank of the two scores squared. This provides a check on whether students were intentionally scoring low on the pre test to show large gains on the second test. If this were happening the rho correlation would be extremely low.

LINEAR CORRELATION, r, provides a measure of the relationship between two variables (test scores), and can be used to enter tables of confidence to determine the significance of the r.

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}$$

x is the difference between the mean and the pre-test score, y the difference between the mean and the post-test score.

7. STANDARD ERROR OF THE MEAN (SE_M) is found by using the formula $SE_M = \frac{s}{\sqrt{N}}$ in which $s = \sqrt{\frac{\Sigma x^2}{N-1}}$ From these calculations a t score or critical ratio may be found by the formula $t = \frac{D}{SE_D}$ in which D is the difference between the mean and zero, and SE_D is the standard error of the mean difference. A t-table may then be entered to determine the level of confidence of the score as a test against the null hypothesis.

The null hypothesis asserts that the true mean difference between the two tests being compared is actually zero, and that the obtained difference is inconsequential and could well be zero or could have been obtained by chance In rejecting the null hypothesis we assert that the difference obtained is significant. In accepting the null hypothesis we concede that the difference May well be zero.

When the levels of confidence reach the .05 or .01 levels we may be fairly confident that student improvement occurs during conduct of the class because of the teacher and student and not because of chance.

Subject: American Government Teacher: L
Name of Test: Magruder's Amer. Gov't. Form of Test: Pre S Post S
Scores Reported: Raw Dates given: Pre - 9-8-69
Highest Possible Score: 150 Post-12-17-69

Student	Rank	Pre-test	Rank	Post-test	Gain or Loss
1	3	89	3	125	36
2	8	76	7.5	104	28
3	1	95	1.5	138	43
4	4.5	85	1.5	138	53
5	7	77	10	96	19
6	6	81	5.5	109	28
7	4.5	85	9	101	16
8	9.5	75	11	94	19
9	11	70	7.5	104	34
10	9.5	75	5.5	109	34
11	2	91	4	123	32
TOTALS		899		1241	342
				Average gain	31

	Pre	Post
Mean	81.7	112.8
Median	81	109
Mode	none	none
Range	70-95	94-138
SD $\sqrt{\frac{\Sigma x^2}{N}}$	7.4	15.0
rho = .67		
r = .82		
σ_x = 7.489		
σ_y = 15.019		

Signigicant at .01 level

	Pre	Post
SE	4.2	8.5
SE_M $\frac{S}{\sqrt{N}}$	2.3	4.7
S_D = 10.96 $\sqrt{\frac{\Sigma x^2}{N-1}}$		
SE_{MD} = 3.31		
t = 9.36		
df = 10		

Significant at .01 level

Subject: American Government
Name of Test: Stanford Achievement (Advanced)
Scores Reported: Grade Equivalent
Highest Possible Score: 12.9

Teacher: P
Form of Test: Pre W Post X
Dates given: Pre 9 - 8-69
Post 12 -17-69

Student	Rank	Pre-test	Rank	Post-test	Gain or Loss
1	4.5	8.7	3	10.0	1.3
2	3	10.4	7	7.7	-2.7
3	2	10.7	1	11.7	1.0
4	6	8.6	6	7.9	- .7
5	8	7.6	5	8.4	.8
6	7	8.4	4	9.6	1.2
7	1	11.4	2	11.4	--
8	4.5	8.7	8	7.6	-1.1
9	9	7.2	9	7.2	-
10*		-	-	-	--
TOTALS		81.7		81.5	-.2
				AVERAGE GAINS	-.02

* One score not reported - post-test score available only.

	Pre	Post
Mean	9.1	9.1
Median	8.7	8.4
Mode	none	none
Range	7.2 -11.4	7,2 -11.7
SD $\sqrt{\frac{\Sigma x^2}{N}}$	1.3	1.2

rho = .57
r = .52
σ_x = 1.33
σ_y = 1.57
Not significant

	Pre	Post
SE	.85	.78
$S_D \sqrt{\frac{\Sigma x^2}{N-1}}$	= 1.3	
SE_{MD}	= .43	
t	= .046	
df	= 8	

Not significant

Subject: American Government
Name of Test: Social Studies
Scores Reported: Stanines
Highest Possible Score: 9

Teacher: Z
Form of Test: Pre W Post W
Dates given: Pre 9 - 8 - 69
Post 12 -17 - 69

Student	Rank	Pre-test	Rank	Post-test	Gain or Loss
1	6	6	3.5	9	3
2	3	8	3.5	9	1
3	8	2	8	4	2
4	3	8	3.5	9	1
5	1	9	3.5	9	-
6	5	7	3.5	9	2
7	7	5	7	6	1
8	3	8	3.5	9	1
9*		-		-	-
TOTALS		53		64	11
				AVERAGE GAIN	1.37

*One score not reported - pre-test score available only.

	Pre	Post
Mean	6.6	8.0
Median	6.6	9.0
Mode	8	9
Range	2-9	4-9
SD $\sqrt{\frac{\Sigma x^2}{N}}$	2.1	1.7

rho = .82
r = .97
σ_x = 2.1
σ_y = 1.79
Significant at the .01 level.

	Pre	Post
SE	.89	.72
$S_D\sqrt{\frac{\Sigma x^2}{N-1}}$ =	.9	
SE_{MD} =	.31	
t =	4.41	
df =	7	

Significant at the .01 level.

Subject: American History
Name of Test: Crary
Scores Reported: Percentiles (General)
Highest Possible Score: 99

Teacher: F
Form of Test: Pre E Post E
Dates given: Pre 9 - 8 -69
Post 12 -17 -69

Student	Rank	Pre-test	Rank	Post-test	Gain or Loss
1	2	56	6	56	-
2	8	11	2	77	66
3	4	29	4.5	66	37
4	5	17	8	29	12
5	3	49	3	74	25
6	6	15	4.5	66	51
7	7	13	7	42	29
8	1	82	1	94	12
9*		-		-	-
10*		-		-	-
TOTALS		272		504	232
			Average gains		29

* Two scores not reported - pre-test scores available only.

	Pre	Post
Mean	34	63
Median	23	66
Mode	none	none
Range	11-82	29-94
SD $\sqrt{\frac{\Sigma x^2}{N}}$	24.1	19.4

rho = .24
t = .87
σ_x = 24.1
σ_y = 19.2
Significant at the .01 level

	Pre	Post
SE	21.0	16.9
$S_D \sqrt{\frac{\Sigma x^2}{N-1}}$ =	20.7	
SE_{MD} =	7.35	
t =	3.94	
df =	7	

Significant at the .01 level.

Subject: American History
Name of Test: Crary
Scores Reported: Percentiles (General)
Highest Possible Score: 99

Teacher: H
Form of Test: Pre F Post E
Dates given: Pre 9 - 8 -69
Post 12 - 17 -69

Student	Rank	Pre-test	Rank	Post-test	Gain or Loss
1	3	15	4	39	24
2	2	46	2	93	47
3	4	11	3	56	45
4	1	49	1	94	45
5*		-		-	-
TOTALS		121		282	161
				Average gain	40.25

* One score not reported - post-test score available only.

	Pre	Post
Mean	30.2	70.5
Median	25.5	75
Mode	none	none
Range	11-49	39-94
SD $\sqrt{\frac{\Sigma x^2}{N}}$	17.3	23.7

rho = .80
r = .94
σ_x = 17.3
σ_y = 23.7
Very close at .05 but not significant at .01

	Pre	Post
SE	7.7	10.6
$S_D \sqrt{\frac{\Sigma x^2}{N-1}}$ =	10.87	
SE_{MD} =	5.437	
t =	7.4	
df =	3	

Significant at the .01 level.

The difference in significance of the r and the t is most likely due to the small class size where degrees of freedom for r = n-2.

Subject: American History
Name of Test: Crary
Scores Reported: Percentiles (General)
Highest Possible Score: 99

Teacher; S
Form of Test: Pre F Post E
Dates given: Pre 9 - 8 - 69
Post 12-17 - 69

Student	Rank	Pre-test	Rank	Post-test	Gain or Loss
1	4	9	3.5	21	12
2	1	17	1	60	43
3	5	2	5	6	4
4	2	12	2	34	22
5	3	10	3.5	21	11
6*		-		-	-
7*	-	-		-	-
TOTALS		50		142	92
				Average gain	18.4

*Two scores not reported - pre-test scores available only.

	Pre	Post
Mean	10	20.4
Median	10	21
Mode	none	none
Range	2-7	6-60
SD $\sqrt{\frac{\Sigma x^2}{N}}$	4.8	18.1

rho = .975
4.8
18.1
.95
Significant at .05 but not .01 level.

	Pre	Post
SE	.8	3.1
$S_D \sqrt{\frac{\Sigma x^2}{N}}$ =	15.26	
SE_{MD}	6.82	
t	2.69	
df	4	

Almost significant at the .05 but not significant at .01 level.

Subject: English 10
Name of Test: Stanford Achievement (Adv.)
Scores Reported: Grade Equivalent
Highest Possible Score: 12.9

Teacher: J
Form of Test: Pre W Post X
Dates given: Pre 9 - 8 - 6[illegible]
Post 12-17 - 69

Student	Spell. (Pre - Test)	Lang. (Pre - Test)	Spell. (Post - Test)	Lang. (Post - Test)	Spell. (Gain or Loss)	Lang. (Gain or Loss)
1	8.2	6.9	10.8	10.2	2.6	3.3
2	6.8	6.8	9.0	9.9	2.2	3.1
3	6.8	7.7	11.9	12.0	5.1	4.3
4	4.6	7.2	5.7	9.6	1.1	2.4
TOTALS	26.4	28.6	37.4	41.7	11.0	13.1
			Average Gains		2.75	3.3
Mean	6.6	7.15	9.35	10.4		
Median	6.8	7.05	9.9	9.05		
Mode	none	none	none	none		
Range	4.6-8.2	6.8-7.7	5.7-11.9	9.6-12.0		
SD	1.3	.36	2.3	.9		
rho	.65	.40				
SE	.77	.27	1.36	.69		

	SPELL.	LANG.
$S_D \sqrt{\frac{2}{N-1}}$	1.7	.248
SE_{MD}	.85	.124
t	3.235	26.6
df	3	3
	(Significant at the .05 but not at the .01 level).	(Significant at the .01 level)
r	.84	.81
σ_x	1.3	.34
σ_y	2.24	933
	(Not significant at either .05 or .01 level)	(Not significant at either .05 or .01 level)

The difference in significance of r and t is probably due to small class size where degrees of freedom for r = n-2.

Subject: English 10 Teacher: K
Name of Test: Standard Achievement (Adv.) Form of Test: Pre W Post X
Scores Reported: Grade Equivalent Dates given: Pre 9 - 8 - 69
Highest Possible Score: 12.9 Post 12 -17 - 69

Student	Pre - test		Post-test		Gain or Loss	
	Spell	Lang.	Spell.	Lang.	Spell.	Lang
1	7.9	7.3	11.1	10.4	3.2	3.1
2	7.9	4.4	8.6	7.9	.7	3.5
3	12.5	6.1	12.7	7.9	.2	1.8
4	11.6	8.6	10.6	10.7	-1.0	2.1
5	9.3	8.0	9.6	8.2	.3	.2
TOTALS	49.2	34.4	52.6	45.1	3.4	10.7
				Average Gains	.7	2.1
Mean	9.8	6.9	10.5	9.0		
Median	9.3	7.3	10.6	8.2		
Mode	none	none	none	none		
Range	7.9-12.5	8.6-12.7	4.4-8.6	7.9-10.7		
SD $\sqrt{\frac{\Sigma x^2}{N}}$	1.9	1.4	1.4	1.2		
rho	.575	.875				
SE	1.2	.48	.9	.42		

	SPELL.	LANG.
$S_D \sqrt{\frac{\Sigma x^2}{N-1}}$	1.54	1.28
SE_{MD}	.69	.58
t	1.01	3.62
df	4	4
	(Not significant at either .05 or .01 level)	(Significant at the .05 level but not at the .01 level)
r	.86	.85
σ_x	1.9	1.4
σ_y	1.4	1.2
	(Not significant at either .05 or .01 level)	(Not significant at either .05 or .01 level)

Subject: English 10 Teacher: MA
Name of Test: Standard Achievement (Adv.) Form of Test: Pre W Post X
Scores Reported: Grade Equivalent Dates given: Pre 9- 8 - 69
Highest Possible Score: 12.9 Post 12- 17 - 69

Student	Spell. Pre - Test	Lang. Pre - Test	Spell. Post - Test	Lang. Post - Test	Spell. Gain or Loss	Lang. Gain or Loss
1	9.0	8.4	11.5	10.4	2.5	2.0
2	11.7	6.8	11.7	8.2	-	1.4
3	3.8	6.0	6.2	6.5	2.4	.5
TOTALS	24.5	21.2	29.4	25.1	4.9	3.9
				Average gains	1.6	1.3
Mean	8.2	7.1	9.8	8.4		
Median	9.0	6.8	11.5	8.2		
Mode	none	none	none	none		
Range	3.8-11.7	6.0-8.4	6.2-11.7	6.5-10.4		
SD $\sqrt{\frac{\Sigma x^2}{N}}$	3.3	1.	2.5	1.6		
rho	.50	1.00				
SE	2.3	-	1.7	-		

	SPELL	LANG.
S_D $\sqrt{\frac{\Sigma x^2}{N-1}}$	1.4	.75
SE_{MD}	.816	.435
t	1.96	3.00
df	2	2
	Not significant	Not significant
r	.95	.99
σ_x	3.3	1.0
σ_y	2.5	1.6
	Not significant	Not significant

Subject: English 10
Name of Test: Stanford Achievement (Adv.)
Scores Reported: Grade Equivalent
Highest Possible Score: 12.9

Teacher: ME
Form of Test: Pre W Post X
Dates given: Pre 9 - 8 - 69
Post 12-17 - 69

Student	Pre - Test Spell.	Pre - Test Lang.	Post-test Spell.	Post-test Lang.	Gain or Loss Spell.	Gain or Loss Lang.
1	12.9	8.8	12.9	10.0	-	1.2
2	6.4	7.6	7.2	11.5	.8	3.9
3	12.5	10.6	12.7	11.3	.2	.7
4	9.3	9.3	11.7	10.3	2.4	1.0
5	10.2	9.8	9.9	10.5	- .3	.7
6*	-	-	-	-	-	-
7*	-	-	-	-	-	-
8*	-	-	-	-	-	-
TOTALS	51.3	46.1	54.4	53.6	3.1	7.5
Average Gains	.6		1.5			

*Three scores not reported - pre or post test scores available only.

Mean	10.3	9.2	10.9	10.7
Median	10.2	9.3	11.7	10.5
Mode	none	none	none	none
Range	6.4-12.9	7.6-10.6	7.2-12.9	10.0-11.5
SD $\sqrt{\frac{\Sigma x^2}{N}}$	2.4	1.0	2.1	.55
rho	.90	0		
SE	.77	1.0	.66	.55

	SPELL.	LANG.
S_D $\sqrt{\frac{\Sigma x^2}{N-1}}$	1.08	1.37
SE_{MD}	.483	.612
t	1.24	2.45
df	4	4
	Not significant	Not significant
r_{tet}	.97	.84
σ_x	2.3	1.0
σ_y	2.1	.55
	Significant at the .01 level	Not significant

The difference in r_{tet} and t significance is probably due to small class size.

Subject: English II
Name of Test: Stanford Achievement (Adv.)
Scores Reported: Grade Equivalent
Highest Possible Score: 12.9

Teacher: D
Form of Test: Pre W Post X
Dates given: Pre 9 -8 - 69
Post 12-17-69

Student	Pre - Test Spell	Pre - Test Lang	Post - Test Spell	Post - Test Lang	Gain or Loss Spell	Gain or Loss Lang
1	11.8	8.0	11.8	8.8	-	.8
2	8.8	7.9	11.1	9.0	2.3	1.1
3	8.0	8.6	9.5	10.5	1.5	1.9
4	9.0	9.3	11.7	10.0	2.7	.7
5	11.6	11.5	12.2	7.7	.6	-3.8
6	5.9	11.1	7.2	4.9	1.3	-6.2
7	11.1	8.0	10.8	10.0	- .3	2.0
8*	-		-	-	-	-
TOTALS	66.2	64.4	74.3	60.9	8.1	- 3.5
				Average Gains	1.2	- .5

*One score not reported -pre-test score available only.

Mean	9.4	9.2	10.6	8.7
Median	9.0	8.6	11.1	9.0
Mode	none	none	none	none
Range	5.9-11.8	7.9-11.5	7.2-12.2	4.9-10.5
SD $\sqrt{\frac{\Sigma x^2}{N}}$	2.0	1.4	1.6	1.97
rho	.86	- .43		
SE	.75	1.67	.60	2.28

	SPELL.	LANG.
S_D $\sqrt{\frac{\Sigma x^2}{N-1}}$	1.124	3.162
SE_{MD}	.424	1.19
t	2.83	.420
df	6	6
	(Significant at the .05 level but not at the .01 level)	Not significant
r_{xy}	.94	.74
σ_x	2.0	2.0
σ_y	1.6	1.8
	(Significant at the .01 level)	Not significant

Subject: English II
Name of Test: Stanford Achievement (Adv.)
Scores Reported: Grade Equivalent
Highest Possible Score: 12.9

Teacher: L
Form of Test: Pre -- Post--
Dates given: Pre 9 - 8 - 69
Post 12-17 - 69

Student	Pre - Test Spell.	Lang.	Post - Test Spell.	Lang.	Gain or Loss Spell.	Lang.
1	9.3	6.0	7.8	8.4	-1.5	2.4
2	7.2	6.8	10.2	6.2	3.0	- .6
3	12.4	10.5	12.7	11.7	.3	1.2
4	9.3	6.2	8.6	9.8	- .7	3.6
5	8.0	7.1	9.0	6.8	1.0	- .3
TOTALS	46.2	36.6	48.3	42.9	2.1	6.3
				Average Gains	.4	1.3
Mean	9.2	7.3	9.7	8.6		
Median	9.3	6.8	9.0	8.4		
Mode	none	none	none	none		
Range	7.2- 12.4	6.0- 10.5	7.8- 12.7	6.2- 11.7		
SD $\sqrt{\frac{\Sigma x^2}{N}}$	1.7	1.6	1.7	2.0		
rho	.19	.20				
SE	1.5	1.4	1.5	1.8		

	SPELL.	LANG.
S_D $\sqrt{\frac{\Sigma d^2}{N-1}}$	1.732	1.541
SE_{MD}	.774	.689
t	.516	1.88
df	4	4
	Not significant	Not significant
r	.77	.80
σ_x	1.7	1.6
σ_y	1.7	2.0
	Not significant	Not significant

Subject: English II
Name of Test: Stanford Achievement (Adv.)
Scores Reported: Grade Equivalent
Highest Possible Score: 12.9

Teacher: O
Form of Test: Pre W Post X
Dates given: Pre 9 - 8 - 69
Post 12 -17--69

Student	Pre - Test Spell.	Pre - Test Lang.	Post - Test Spell.	Post - Test Lang.	Gain or Loss Spell.	Gain or Loss Lang.
1	10.4	10.0	11.8	11.9	1.4	1.9
2	11.7	10.9	11.9	11.8	.2	.9
3	7.2	8.0	9.9	9.9	2.7	1.9
4	10.4	7.9	11.3	9.3	.9	1.4
5	9.3	10.1	11.6	10.9	2.3	.8
6	5.7	9.0	9.6	10.4	3.9	1.4
7*	-	-	-	-	-	-
8*	-	-	-	-	-	-
9*	-	-	-	-	-	-
10*	-	-	-	-	-	-
11*	-	-	-	-	-	-
12*	-	-	-	-	-	-
TOTALS	54.7	55.9	66.1	64.2	11.4	8.3
				Average Gains	1.9	1.4

*Six scores not reported - pre-test scores available only.

Mean	9.1	9.3	11.0	10.7
Median	9.85	9.5	11.45	10.7
Mode	none	none	none	none
Range	5.7-11.7	7.9-10.9	9.6-11.9	9.3-11.9
SD $\sqrt{\frac{\Sigma x^2}{N}}$	2.0	1.1	.9	.9
rho	.90	.83		
SE	.6	.45	.28	.37

	SPELL.	LANG.		SPELL.	LANG.
S_D $\sqrt{\frac{\Sigma x^2}{N-1}}$	1.33	.447	σ_1	.95	.92
SE_{mD}	.543	.182	σ_2	2.0	1.1
t	3.49	7.69	σ_D	.9	.9
df	5	5			
	(Significant at the .05 level but not at the .01 level)	(Significant at the .01 level)		(Significant at the .01 level)	(Significant at the .01 level)

Subject: Math
Name of Test: Stanford Achievement (Adv.)
Scores Reported: Grade Equivalent
Highest Score Possible: 12.9

Teacher: BE
Form of Test: Pre W Post X
Dates Given: Pre 9 - 8 - 69
12 17 - 69

Student	Pre-test			Post-test			Gain or Loss		
	1	2	3	1	2	3	1	2	3
1	11.2	11.1	12.7	12.1	12.7	12.9+	.9	1.6	.2
2	6.2	6.4	8.2	8.4	7.6	10.4	2.2	1.2	2.2
3	5.4	6.6	11.9	10.8	9.9	12.7	5.4	3.3	.8
4	8.0	6.6	8.5	8.4	10.3	12.1	.4	3.7	3.6
5	6.6	8.0	8.2	8.4	8.0	11.6	1.8	-	3.4
6	5.6	5.7	6.0	5.6	4.0	6.3	-	-1.7	.3
7	9.6	10.5	10.8	9.6	12.0	12.3	-	1.5	1.5
8	8.0	9.2	10.8	10.8	12.2	11.9	2.8	3.0	1.1
18*	-	-	-	-	-	-	-	-	-
TOTALS	60.6	64.1	77.1	74.1	76.7	90.2	13.5	12.6	13.1
					Average Gains		1.7	1.6	1.6

*Ten scores not reported - pre-test scores available only.

Mean	7.6	8.0	9.8	9.3	9.6	11.3
Median	7.3	8.3	9.65	9.0	10.1	12.0
Mode	none	none	none	none	none	none
Range	5.4-11.2	5.7-11.1	6.0-12.7	5.6-12.1	7.6-12.7	6.3-12.9
SD $\sqrt{\frac{\Sigma x^2}{N}}$	1.9	1.9	2.0	1.9	2.7	2.0
rho	.48	.90	.95			
SE	1.37	.7	.45	1.37	.85	.45

	#1	#2	#3
$S_D \sqrt{\frac{\Sigma x^2}{N-1}}$	1.8	1.7	1.7
SE_{MD}	.636	.601	.601
t	2.67	2.66	2.66
df	7	7	7
	(Significant at .05 but not at .01 level)		
r	.86	.06	.90
σ_x	1.9	1.9	2.1
σ_y	1.9	2.7	2.0
	(Significant at both .05 and .01 level)		

Subject: Math
Name of test: Stanford Achievement (Adv)
Scores Reported: Grade Equivalent
Highest Possible Score: 12.9

Teacher: BU
Form of Test: Pre W Post X
Dates given: Pre 9 - 8 - 69
Post 12 -17 -669

Student	Pre-test			Post-test			Gain or Loss		
	1	2	3	1	2	3	1	2	3
1	7.8	7.4	12.1	9.6	11.4	10.4	1.8	4.0	-1.7
2	7.8	8.2	8.2	8.6	8.8	9.8	.8	.6	1.6
3	10.4	11.1	11.1	11.9	11.8	11.3	1.5	.7	.2
4	5.4	8.6	10.4	9.6	9.2	8.5	4.2	.6	-1.9
5	6.4	6.9	9.1	8.4	8.0	11.3	2.0	1.1	2.2
6	5.4	6.0	4.4	7.2	6.6	6.7	1.8	.6	3.3
7	5.4	6.2	6.7	11.7	11.6	11.3	6.3	5.4	3.6
TOTALS	48.6	54.4	62.0	67.0	67.4	69.3	18.4	13.0	7.3
					Average Gains		2.6	1.9	1.0
Mean	6.9	7.8	8.9	9.6	9.6	9.9			
Median	6.4	7.4	9.1	9.6	9.2	10.4			
Mode	none	none	none	none	none	none			
Range	5.4-10.4	6.0-11.1	4.4-12.1	7.2-11.9	6.6-11.8	6.7-11.3			
SD $\sqrt{\frac{\Sigma x^2}{N}}$	1.7	1.6	2.5	1.6	1.8	1.6			
rho	.39	.54	.32						
SE	1.3	1.1	2.06	1.2	1.2	1.3			

	#1	#2	#3
S $\sqrt{\frac{\Sigma x_D^2}{N-1}}$	3.72	3.97	2.63
SE_{MD}	1.41	1.5	.99
t	3.7	2.4	1.6
df	6	6	6
	(Significant at .01 level)	(Almost significant at .05 level)	(Not significant)
t	.84	.87	.87
σ_z	1.7	1.6	2.5
$\sigma_{\tilde{y}}$	1.6	1.8	1.6
	(Significant at .05	(Significant at .01)	(Significant at .01)

Subject: Math
Name of Test: Stanford Achievement (Adv)
Scores Reported: Grade Equivalent
Highest Possible Score: 12.9

Teacher: R
Form of Test: Pre W Post X
Dates given: Pre 9 - 8 - 69
Post 12-17 - 69

Student	Pre-test 1	2	3	Post-test 1	2	3	Gain or Loss 1	2	3
1	6.4	7.2	6.3	8.4	8.5	10.8	2.0	1.3	4.5
2	5.6	10.5	11.1	11.7	12.2	11.3	5.5	1.7	.2
3	5.8	6.0	7.2	7.2	6.6	7.4	1.6	.6	.2
4	8.2	7.6	8.5	10.0	10.3	11.6	1.8	2.7	3.1
5	6.2	6.0	8.2	8.6	8.5	10.8	2.4	2.5	2.6
6	5.4	8.0	10.4	9.6	9.6	11.1	4.2	1.6	.7
7	7.8	9.2	7.9	9.2	9.9	9.1	1.8	.7	1.2
8	7.2	7.6	9.8	10.4	11.4	12.9	3.2	3.8	3.1
9	7.6	8.6	11.5	9.2	11.6	11.3	1.6	3.0	.2
10	6.0	7.4	7.9	8.0	8.8	11.1	2.0	1.4	3.2
11	11.9	12.6	12.7	12.9	12.9	12.9	1.0	.3+	.2
12	12.3	11.6	12.5	12.3	12.6	12.9+	-	1.0	.4+
TOTALS	90.4	102.3	114.0	117.5	122.9	133.2	27.1	20.6	19.2
					Average Gains		2.3	1.7	1.6

Mean	7.5	8.5	9.5
Median	6.8	7.8	9.2
Mode	none	none	none
Range	5.4-12.3	6.0-12.6	6.3-12.7
SD $\sqrt{\frac{\Sigma x^2}{N}}$	2.2	2.0	1.4
rho	.49	.95	.87
SE	1.57	.45	.50

	#1	#2	#3
$S_D \sqrt{\frac{\Sigma x_D^2}{N-1}}$	2.12	1.15	2.55
SE_{MD}	.612	.33	.736
t	5.75	5.48	4.57
df	11	11	11

(Significant at both .05 and .01 level)

r	.90	.92	.69
σ_x	2.2	2.0	2.1
σ_y	1.7	1.8	1.5

(Significant at both .05 and .01 level)

(Significant at .05 but not at .01 level)

Subject: Science
Name of Test: Stanford Achievement (Advanced)
Scores Reported: Grade
Highest Possible Score: 12.9

Teacher: J
Form of Test: Pre W Post X
Dates given: Pre 9 - 8 -69
Post 12 - 17 -69

Student	Pre-test	Post-test	Gain or Loss
1	10.0	10.6	.6
2	12.1	12.1	-
3	11.4	11.2	+.2
4	10.4	11.4	1.0
5	10.4	10.6	.2
6	6.3	8.7	2.4
7*	-	-	-
TOTALS	60.6	64.6	4.0
		Average Gains	.7

*One score not reported - pre-test score available only.

Mean	10.1	10.8
Median	10.4	10.9
Mode	none	none
Range	6.3 - 12.1	8.7-12.1
SD $\sqrt{\frac{\Sigma x^2}{N}}$	1.8	.7
rho	.88	
SE	.62	.24

t = 1.00 Significant at the .01 level.
σ_x = 1.8
σ_y = 1.0

SD $\sqrt{\frac{\Sigma xx}{N-1}}$ =.8944
SE_{mo} =.365
t = 1.81 not significant at either the .05 or .01 level.

Subject: Science
Name of Test: Stanford Achievement (Adv)
Scores Reported: Grade Equivalent
Highest Possible Score: 12.9

Teacher: M
Form of Test: Pre W Post X
Dates given: Pre 9 - 8 - 69
Post 12 -17 - 69

Student	Pre-test	Post-test	Gain or Loss
1	6.7	10.0	3.3
2	8.0	10.4	2.4
3	8.0	10.0	2.0
4	10.2	12.1	1.9
5	6.9	9.2	2.3
6	10.0	10.6	.6
TOTALS	49.8	62.3	12.5
		Average Gain	2.1
Mean	8.3	10.4	
Median	8.0	10.2	
Mode	none	none	
Range	6.7-10.2	9.2-12.1	
SD $\sqrt{\frac{\Sigma x^2}{N}}$	1.4	.3	
SE	.48	.10	

rho = .88
$S_D \sqrt{\frac{\Sigma x^2}{N-1}}$ .774
SE_{MD} .316
t 5.25 Significant at the .01 level.
df 5
.82
1.9
.88 Significant at .05 level.

Subject: Science
Name of Test: Teacher made
Scores reported: Percents
Highest Possible Score: 100%

Teacher: S
Form of Test: Pre S Post S
Dates given: Pre 9 - 8 - 69
Post 12-17 - 69

Student	Pre-test	Post-test	Gain or Loss
1	12	44	32
2	12	68	56
3	16	56	40
4	0	80	80
5	20	88	68
6	12	48	36
7	16	52	36
TOTALS	88	436	348
		Average Gain	49.7
Mean	12.5	62.3	
Median	12	56	
Mode	none	none	
Range	0-20	44-88	
SD $\sqrt{\frac{\Sigma d^2}{N}}$	5.8	15.5	
SE	5.09	13.6	

rho = .23
$\sigma_{\bar{x}}$ .77
$\sigma_{\bar{x}}$ 5.8 (Significant at .05 level)
σ_y 15.5
$S_D \sqrt{\frac{\Sigma d^2}{N-1}}$ 345.9
SE_{mD} 130.72
t 7.15 (Significant at .01 level)
df 6

Subject: Home Economics
Name of Test: Teacher made
Scores Reported: raw
Highest Possible Score: 103

Teacher: S
Form of Test: Pre S Post S
Dates given: Pre 9 - 8 - 69
Post 12-17 - 69

Student	Pre-test	Post-test	Gain or Loss
1	70	88	18
2	65	83	18
3	60	79	19
4	88	92	4
TOTALS	283	342	59
		Average Gain	14.8

Mean	71	86
Median	67.5	85.5
Mode	none	none
Range	60-88	79-92
SD $\sqrt{\frac{\Sigma x^2}{N}}$	10.0	5.0
SE	0	0

rho	= 1.00	
r	.94	
σ_x	8.367	Almost significant at the .05 level
σ_y	3.715	
$S_D \sqrt{\frac{\Sigma x^2}{N-1}}$	51.59	
SE_{MD}	25.79	
t	4.2	Significant at both the .05 and .01 level.
df	3	

The difference between r and t significance is probably due to class size.

CLASSES NOT USING PRE-POST TESTS

Bookkeeping	1 section
Home Economics	1 "
Metal Shop	1 "
Shorthand	1 "
Typing	4 Sections
Welding	1 section
Woods and Crafts	1 "

JRG:rp

SUMMARY:

1. The majority of adult teachers in this program do not recognize a need for inservice training. Those who do, mention the following areas where in-service training is most needed: for new teachers, courses of study in English, and new trends and innovations in adult education.
2. Most helpful activities varied with the subject matter, but mentioned in all but a few subjects were: audio-visual aids, blackboard work by teachers, classroom illustrations by teacher & classroom discussions. The effectiveness of homework, workbooks, experiments, etc. varied considerably with the subject.
3. Least helpful activities varied considerably with the subject being taught with lectures, homework, and workbooks being frequently mentioned.
4. Problems encountered also varied, the most serious being excessive dropouts. About forty adults "dropped", and of these, about twenty were forced to drop because of work or illness. The reasons the other twenty dropped is not known as we were unable to contact them. Attendance was a problem for a few teachers.
5. Ways to improve the class varied with each teacher and subject. Most teachers did not respond or checked "none" to this question.
6. Additional comments are self explanatory and again most frequently mentioned was "none" or "no response".
7. Pre-post test results are perhaps the most significant part of this evaluation. They do indicate that adults are learning. The level of confidence found by t-scores or correlations, is high. Perhaps, if anything, the actual learning taking place is higher than the tests would indicate, since many of the standardized tests are not designed for the subject matter being taught and none of the tests have been designed or standardized for adults. This is perhaps one of the greatest needs we have for adult testing.

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